COLTON, G. Q.
Anesthesia. New York, 1886.

ANÆSTHESIA.

Who Made and Developed this Great Discovery?

A STATEMENT

"Delivered upon the mellowing of Occasion."

BY

G. Q. COLTON.

"Fear not to touch the best,
The truth shall be thy warrant."
Sir Walter Raleigh.

NEW YORK:
A. G. SHERWOOD & CO., PUBLISHERS,
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ANÆSTHESIA.

WHO FIRST DISCOVERED AND DEVELOPED IT?

Some of my friends have claimed for me a greater share of credit in the discovery and development of anæsthesia than I deserve, or have ever claimed for myself.

I propose, in this brief treatise, to give a plain and simple statement of the facts concerning this discovery, and leave the public to judge of the degree of merit which each of the actors may justly claim.

It is an established principle that the mere conception of a discovery, without any practical application and development of it, does not constitute a discovery. The real discoverer is the man who not only conceives, but practically applies and develops his discovery—puts it into actual use.

By this rule, the claims of Sir Humphry Davy and of Dr. Crawford W. Long, of Georgia, must be set aside. In a work entitled, "Researches on Nitrous Oxide," published by Sir Humphry Davy in 1800, he uses these words: "Inasmuch as Nitrous Oxide, when inhaled in large doses, seems capable of rendering one insensible to pain, it is not improbable that it may be used in surgical operations where no great flow of

blood is caused." There is no evidence that Sir Humphry Davy or any one else ever acted on his suggestion.

Dr. Crawford W. Long performed a surgical operation while the patient was under the influence of Sulphuric Ether in 1842. But there is no evidence that he ever performed any other operation with it, or that he made any publication of it. Evidently he did not consider or claim that he had made a discovery.

Without any knowledge of the suggestion of Sir Humphry Davy, or the experiment of Dr. Long, the great discovery of modern anæsthesia was made by the late Dr. Horace Wells, of Hartford, Conn., on the evening of the 10th of December, 1844; and on the following day he put it to a practical test on his own person.

The circumstances were as follows: On the evening of the 10th of December, 1844, I gave an exhibition of the effects of laughing gas in the city of Hartford, Conn. Among those who inhaled it was a young man by the name of Cooley, who while under its influence, in jumping about, ran against some wooden benches or settees on the stage, bruising his legs badly. After taking his seat, he was astonished to find his legs bloody; and said he did not know he had run against a bench, and felt no pain until after the effects of the gas had passed off. Dr. Wells—who sat next to him—noticed the circumstance, and as the audience were retiring, asked me why a man could not have a tooth extracted without pain while under the influence

of the gas. I replied that I did not know, as the idea had never occurred to me. Dr. Wells then said he believed it could be done, and would try it on himself, if I would bring a bag of gas to his dental office the next day. The next morning—11th of December, 1844—I took a bag of gas to his office—Dr. Riggs having been called in—and administered it to Wells, and Dr. Riggs extracted a molar tooth for him. Dr. Wells, on recovering, exclaimed, "*It is the greatest discovery ever made! I didn't feel it so much as the prick of a pin!*" This was the FIRST operation performed in modern anæsthesia, and was the forerunner of all the other anæsthetics. Beyond all question, this discovery had its birth in the brain of Dr. Horace Wells! I can only claim for myself that I was the *occasion* of the discovery, and of having given the gas for the *first* operation with an anæsthetic.

At the request of Dr. Wells, I instructed him how to make the gas, and then went off on my exhibition business. Dr. Wells got up the apparatus, made and tested the effects of the gas, and then went to Boston to make the discovery known. He called upon Dr. Morton, his former pupil in dentistry, also on many other dentists and physicians, stating what he had discovered and done. They all treated him as a visionary enthusiast. He obtained permission of the elder Dr. Warren to address the class in surgery at Cambridge College. At the close of his remarks, he administered the gas to a boy and extracted a tooth.

The boy screamed out, though he said he didn't know when the tooth was drawn. The students, however, hissed, and pronounced the pretended discovery a humbug. After laboring in and around Boston for about three weeks without any success, Wells returned to Hartford and resumed his dental practice, using the gas as an anæsthetic. He used the gas during all of the year 1845, as the depositions of some forty respectable citizens of Hartford on whom he had operated, bear testimony. During this year of 1845, no one claims that any dentist or surgeon used the gas, or any other anæsthetic, save Wells alone.

At the close of 1845, Dr. Wells went to Europe on account of ill health, where he remained several years. When in Paris he presented his claims before the Academy of Sciences, and the Academy conferred upon him the honor of an "M.D."

During the month of September, 1846, Dr. Morton (Dr. Wells's former pupil) went to Dr. Jackson, a chemist of Boston, to learn how to make the Nitrous Oxide or laughing gas, as he wished to test the truth of Wells's pretended discovery. Dr. Jackson advised him to try Sulphuric Ether, and said, "That gas exhilarates, makes people laugh, dance, etc. If that will destroy pain, Sulphuric Ether will do the same," but advised him not to incur the expense of the apparatus to make the gas. Upon this suggestion, Dr. Morton purchased some Ether and tried it on a boy named Eben Frost. This first experiment with Ether took place

on the 30*th of September*, 1846—almost two years after Wells had used the gas—and was suggested by by Wells's experiments! Dr. Morton reported the success of his operation to Dr. Jackson, which they followed up by a series of experiments between them, with Ether. Finding it successful, they applied, jointly, for a patent for the discovery of the anæsthetic effects of Ether. Before the patent was issued, Jackson assigned all his interest in it to Morton, taking an agreement from the latter that he—Morton—should give him 10 per cent. of all he made out of it. Dr. Jackson then wrote to the Commissioner in Washington, requesting that the patent should be issued to Morton, which was done, while Morton, in order to mystify the public, called it "Letheon," and began to sell "rights." At this early period, it was too much to believe that *any* vapor inhaled into the lungs could destroy pain in a surgical operation, and, as a result, the discovery was scouted by the profession. Dr. Morton deserves great credit for his perseverance in pushing it into use and demonstration in the Massachusetts General Hospital. Any one, on discovering that Nitrous Oxide would destroy pain, would naturally infer that Ether might do the same; and at the suggestion of Dr. Marcy (who was then practising medicine in Hartford), Dr. Wells tried Ether on one occasion, *before he went to Europe.* But he did not like the symptoms, the odor was bad, and this was the only experiment he ever tried with it.

In the latter part of 1847 Wells returned from Europe, and was astonished to learn that Dr. Morton had obtained a patent for Ether, and claimed the honor of the discovery of anæsthesia! An exciting discussion followed between them on the subject in the *Boston Medical Journal.* This discussion so worked on the sensitive nature of Wells, that he became deranged and committed suicide. This took place on the 24th of January, 1848. *Up to this period no one had attempted to use the gas save Wells.*

After the death of Wells, Dr. Morton claimed that Nitrous Oxide was *not an anæsthetic*, and that insensibility to pain could not be produced by it; therefore he, Morton, was the discoverer of anæsthesia! And Dr. Jackson endorsed this view, stating in his work on Chemistry, that he had tried the gas with "large orifices and small orifices" and could not produce insensibility with it. Subsequently, when Jackson learns that some man's name is going down to posterity as a great discoverer, he claims the discovery of anæsthesia, inasmuch as he suggested the trial of Ether to Morton. A violent discussion followed between them on the subject.

Dr. Morton, in his claim that Nitrous Oxide was not an anæsthetic, virtually admits that Dr. Wells was the discoverer of anæsthesia, *provided* that Nitrous Oxide *was* an anæsthetic, and that pain could be destroyed by it.

Dr. Morton's claim to be the discoverer of anæs-

thesia was almost universally recognized, from the time of the death of Wells, January 24th, 1848, till the month of June, 1863, when I *revived* the use of the gas in the city of New Haven, Conn. During this period of fifteen years, when the gas was mentioned, the profession said, "O that was tried by Wells and proved a failure." When in New Haven in June, 1863, I was preparing to give an exhibition of the amusing effects of the gas, and invited a number of gentlemen to attend a private preliminary entertainment at which I gave a history of the discovery of anæsthesia, and detailed the experiments of Wells; stating also that I had never been able to induce a dentist to try the gas. Dr. J. H. Smith, a distinguished dentist of New Haven, who was present, said to me that he would try the gas, provided I would administer it. I replied that I would be very glad to do it, as I wished to demonstrate what could be done with it. We commenced at his office. The first patient who came in was a wealthy old lady, for whom we extracted seven teeth with the gas. On recovering she was so pleased with the result, that she said I might mention her name to my audience, and state that she had had seven teeth extracted without pain, and without any ill or unpleasant effects from the gas. I did so. In three weeks and two days, we extracted a little over three thousand teeth! This success induced me to abandon the "Exhibition" business, and to establish an Institution in New York, devoted exclusively to the extrac-

tion of teeth with the gas. I called it the Colton Dental Association, because my name had been so long identified with the gas.

Whatever credit I deserve in connection with this matter is derived from the fact that I *revived* the use of the gas after it had been condemned, dead and forgotten as an anæsthetic from 1848 to 1863. In this revival and demonstration of the value of the gas as an anæsthetic, is not the world *practically* indebted to me for its use? If I had not revived it, when, and by whom would it have been done? That poor Wells failed to convince the world of its value does not militate in the slightest degree against the honor he deserves as the discoverer of anæsthesia. He did all that a man could do under the circumstances.

Chloroform was discovered and brought into practical use by Professor Simpson, of Edinburgh, in the latter part of 1847, or about a year after the first experiments made with Ether; but Chloroform is a dangerous agent to use, especially in unskilful hands, as thousands of deaths have occurred while under its influence. Ether is a much safer agent, yet both these agents often cause nausea, and the ill effects frequently last for days. The Nitrous Oxide is beyond all comparison the safest of all anæsthetics; as it is pleasant to inhale, and the patient is quickly under its influence and quickly over it. I have given it to over 150,000 patients without a single death. I have the autograph signatures, and numbered, of every patient in my office.

Nearly ten years ago the following TESTIMONIAL was given to me, signed by many of the most eminent Physicians, Surgeons and Dentists of New York:

NEW YORK, *November*, 1876.

The undersigned hereby certify that they are more or less familiar with the anæsthetic effects of Nitrous Oxide Gas, having *experienced* or *witnessed* its operation at the COLTON DENTAL ASSOCIATION in the Cooper Institute. When the gas is pure and properly administered, it suspends all consciousness of pain, and, so far as we know, has never been attended with any injurious effects. We regard it as the safest of all anæsthetics. Signed by

WILLARD PARKER, M.D.,
GURDON BUCK, M.D.,
C. F. CHANDLER, M.D.,
FORDYCE BARKER, M.D.,
J. MARION SIMS, M.D.,
STEPHEN SMITH, M.D.,
C. R. AGNEW, M.D.,
ALEX. B. MOTT, M.D.,
T. A. EMMETT, M.D.,
A. B. CROSBY, M.D.,
JOHN ALLEN, D.D.S.,
A. L. NORTHROP, D.D.S.,
GEO. E. HAWES, M.D.,
WILLIAM H. DWINELL, M.D.,
J. SMITH DODGE, Jr., M.D.,
NORMAN W. KINGSLEY, D.D.S.,
CHAUNCEY P. FITCH, M.D.,
CHARLES MERRITT,
S. L. CLOSE, D.D.S.,
FRANK H. HAMILTON, M.D., LL.D.,
WILLIAM A. HAMMOND, M.D.,
LEWIS A. SAYRE, M.D.,
H. B. SANDS, M.D.,
AUSTIN FLINT, M D.,
T. M. MARKOE, M.D.,
JAMES R. WOOD, M.D.,
ISAAC E. TAYLOR, M.D.,
JAS. KNIGHT, M.D.,
ANDREW H. SMITH, M.D.,
R. OGDEN DOREMUS, M.D., LL.D.,
ALFRED C. POST, M.D.,
ELISHA HARRIS, M.D.,
JEROME C. SMITH, M.D.,
W. A. BRONSON, M.D.,
ALBERT LEFLER,
WILLIAM H. ALLEN,
J. S. LATIMER, D.D.S.,
EHRICK PARMLEY,
E. A. BOGUE, M.D.

When the gas is breathed freely, as it should be, its effects are admirably described by the Rev. Dr. Prime in one of his "IRENÆUS" letters published in

the *New York Observer*, March 3d, 1870, from which the following extract is taken:

"He received me kindly in his spacious parlors, and concurred in the justice of the sentence pronounced. He seated me comfortably in the old arm-chair, and offered me the mouth-piece which the Empress once, for a moment, held. I put it to my lips, and inhaled three, four, perhaps five times, and then, instantly, as it seemed to me, I heard the Doctor say, 'There, it's all right.' I was awake, but the five teeth were gone, as if by magic, without a sense of feeling, with no knowledge of any operation having been performed. There was no more sense of having been asleep, or of having taken anything, than if it had been a glass of water, or a draught of fresh air. It was about two minutes from the time of inhalation to the waking, but the unconsciousness was so complete that it seemed no time at all. Not the slightest inconvenience supervened, and that intense benumbing effect which follows the wrenching of a tooth from its socket, was entirely unknown. In a few days the gums healed and became solid, and all sense of having undergone any operation was past.

"The Doctor has a big roll of manuscript, on which he requests each one who has been operated upon in this room to subscribe his name. They are numbered regularly, and my name was opposite 40,509. This is not the noble army of martyrs exactly, but of living witnesses to the safety and efficacy of the

process, for in the whole number, some of whom have had fifteen teeth removed at a single sitting, not an accident has occurred."

There are, no doubt, many dentists who manufacture impure gas; or administer pure gas after it becomes stale. There is this important fact to be considered. There is no injury produced by the inhalation of stale gas, only it fails to produce the effect desired. And if the gas is so impure that its inhalation would prove fatal, *it cannot be breathed at all*—it would be coughed up at once. When the gas is pure, it has no more taste or odor than the common air, and is perfectly agreeable to the lungs. I suppose that, in showing patients how I wish them to commence to breathe the gas, I inhale, in the aggregate, twenty gallons myself every day. *There is no reaction following the inhalation of the gas.* In this respect it is unlike all other stimulants. And this, simply because it acts on the blood, and not on the substance of the lungs or other organs. Consumptive patients will often feel stronger for days after inhaling it, because it supplies to the blood that element—oxygen—for the lack of which they are growing weaker and weaker. The good effects however, are only temporary.

Where *Neuralgic* pains arise from a low vital or unoxygenized condition of the blood, the gas affords instantaneous relief. This fact—and it is a fact—has not as yet engaged the attention of the Medical Profession.

Of what is Nitrous Oxide, or laughing gas, composed? It is composed of precisely the same elements—oxygen and nitrogen—as the common air, only the proportions are different. In the air we have (in round numbers) one-fifth oxygen and four-fifths nitrogen. In this gas there is half oxygen and half nitrogen, or by volume, one of oxygen to two of nitrogen. Oxygen is the life-giving principle of the air, and in this gas *we have more of it;* a person *lives a little faster* while under its influence.

Chloroform and Ether act as sedatives, and depress the action of the heart, running the pulse down from 70 to 20 or 25 beats to the minute; and this, because they cut off the necessary supply of oxygen. The laughing gas, on the contrary, acts as an *exhilarant*, as by supplying an extra supply of oxygen to the lungs, the pulse is increased 15 to 20 beats to the minute. The former agents carry the patient down towards the point of death; the latter up into increased life.

I suppose I am safe in saying that, in the use of Chloroform, one death has occurred in every 1,000 times it has been administered. I have given the gas 150,000 times without such an accident. And I doubt if there has *ever* been a well authenticated case of death caused by the gas; or a death in which there was not some other cause sufficient to produce the result.

Although my connection with this great discovery was incidental, yet I think it will be admitted that I

was the *occasion* of the discovery, and that but for me it would not have been made; certainly not at that time. And is it too much to claim that the world is practically indebted to me for the anæsthetic use of the Nitrous Oxide gas, having revived and demonstrated its value after it had been abandoned and forgotten for the space of fifteen years?

I leave the subject to the impartial judgment of the profession and the public.

G. Q. Colton.